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Review

Really an epidemic of cesarean section?

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Abstract

In the modern obstetric era, the obstetricians and the maternity units are asked to provide information regarding their obstetric performance. The public debate focus mainly on the percentage of cesarean births. The public belief is that the vaginal delivery is the positive obstetric outcome while caesarian birth is the negative obstetric outcome. However, this approach is not a reliable and realistic index of the obstetric performance of a maternity unit.

Key words: cesarean section; vaginal delivery; labour

This question has been addressed quite a few times in the modern obstetric era. The obstetricians and the maternity units are asked to provide information regarding their obstetric performance. The public debate focus mainly on the percentage of cesarean births. The public belief is that the vaginal delivery is the positive obstetric outcome while cesarean birth is the negative obstetric outcome. However, this approach is not a reliable and realistic index of the obstetric performance of a maternity unit. The press focuses on the cesarean rate of the maternity units, withholding all the data that might lead to a cesarean delivery.

The perinatal mortality rate (PMR) in Greece was estimated in 6.26/1,000 deliveries on 2003, while in 1975 was 25.8/1,000, a data over missed in the press. A further reduction of PMR requires the effective address of the complications of multiple gestations after assisted conception technique, of prematurity and enabling access for antenatal care for all the obstetric population of the country and finally the evidence based management of systematic diseases as Diabetes Mellitus.

In the press, data that would enable comparisons between countries are overlooked. In particular, in the USA, the cesarean section (C/S) rate increased from 20.7% in 1996 in 22.9% in 2000 and 29.1% in 2004[1]. The respective percentages in UK was 10% in 1995, 19% in 1999 and 21.5% in 2000[1].

The increase in the rate of cesarean birth is attributed by 40% in the increase of C/S among primigravidaes, and by 50% in the decrease of the attempted vaginal birth after cesarean (VBAC)[2] (Table 1). We all know that labour in primigravidaes requires much effort, is time and energy consuming. If we chose to study the mode of delivery as the only

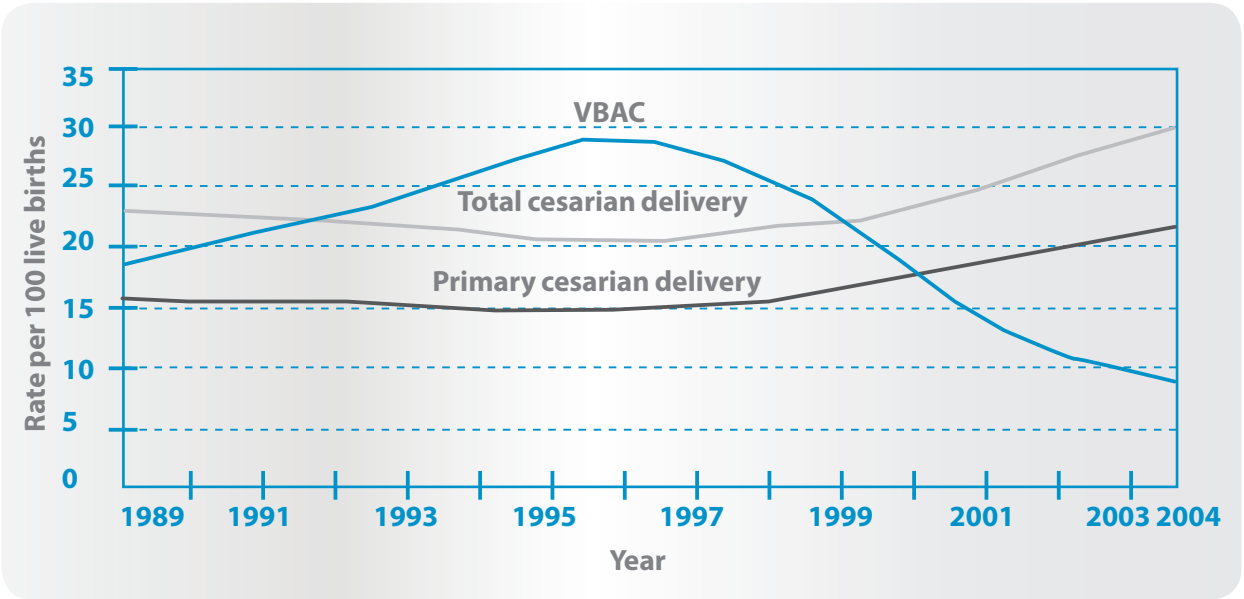


Table 1: The increase in the rate of cesarean birth is attributed by 40% in the increase of cesarean section among primigravidaes, and by 50% in the decrease of the attempted vaginal birth after cesarean (VBAC)[2]

criterion of an obstetrician or a maternity unit, the population that we would ideally study would include all primigravidaes with a singleton gestation excluding all high risk pregnancies.

In UK for these kind of studies, the standardized Primip is used, defined as a Caucasian term primigravidae with singleton gestation in cephalic presentation, age between 20-34 years >155 cm hight and excluding the high risk pregnancies[3]. Similar studying efforts have been attempted in Greece but the acceptance of the formula[4] that was proposed for measuring the obstetric performance of maternity units was limited. In conclusion, the C/S rate as an isolated index of obstetric performance derives obscure informations and can lead to misinterpretations and false conclusions.

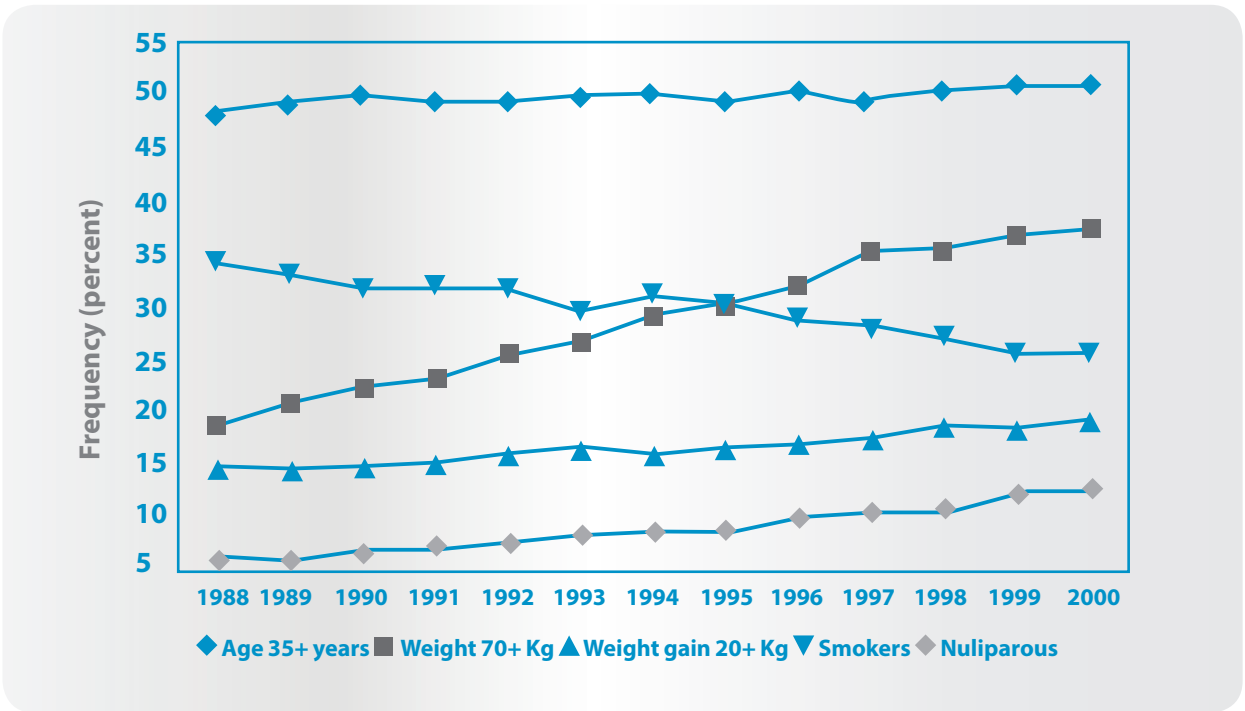
The increase in the C/S rate in the primigravidaes can be attributed in the changes in the maternal characteristics (increased age and BMI) (Table 2)[1], chances in obstetric practice and finally in the increased demand for an elective C/S upon maternal wish. Although the last parameter is a subject of continuing debate, the first two parameters influence mostly the cesarean birth rate in primips.

Concerns regarding the perinatal outcome of fetuses in breech presentation lead to a great decrease of vaginal breech deliveries. Large scale studies[5, 6] favored the perinatal outcome of fetuses in breech presentation by cesarean delivery.

Multicentre study published in 2000[7] concluded that for term fetuses in breech presentation, the mode of delivery should be cesarean birth due to the increased perinatal mortality in the group of vaginal delivery. These conclusions lead to the establishment of the guideline that "the best mode of delivery of a term fetus in breech presentation is an elective C/S"[8,9].

Epidural analgesia offers labourers effective and safe analgesia during labour, but increases the percentage of labour dystocia resulting in increased rate of C/S in primips[10]. The increased use of continues fetal monitoring (CTG)[11], is characterized by a high rate of false positive results for fetal distress, adding to the growing number of C/S without a proven benefit in terms of PMR. Furthermore, the increased group of labour inductions, lead to a further increase in cesarean births.[12]

We also have to acknowledge the changing rela-



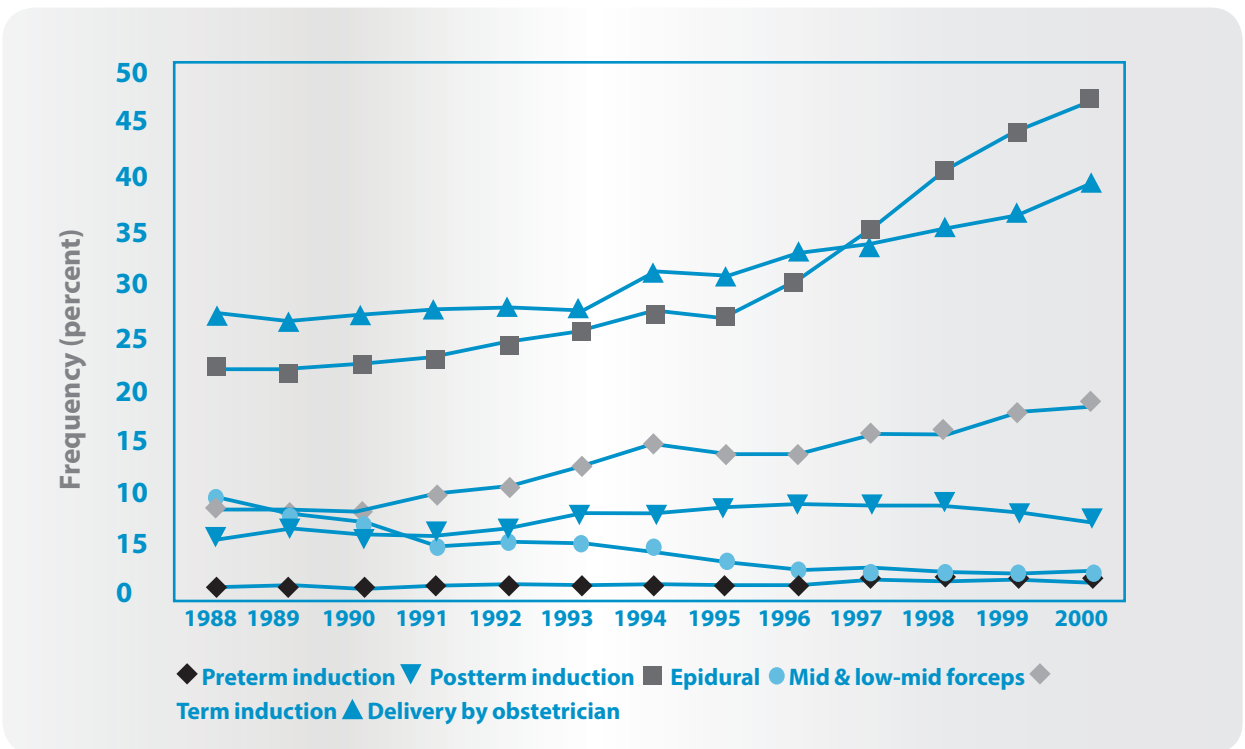


Table 2. Changes in maternal characteristics[1]

tion of doctor *vs* patient to a trade model of provider *vs* consumer. The introduction of the "patient choice" conception[13], although strengthens patient's autonomy, sometimes lead to the increase of cesarean births. Doctors legal concerns in conjunction with the increased safety of C/S, lead to a "defensive" obstetric practice characterized by a high percentage of cesarean births, adversely proportional to the percentage of assisted vaginal deliveries that were characterized as "aggressive" obstetric practice.

Overall, we have to emphasize the possible failure of the obstetric community to identify accurately the low risk population and assist their care accordingly. As a result, increased medical interventions during the antenatal period and labour, lead to the medicalisation of labour and to a decrease in natural birth.

Studies[14] have shown that vaginal birth carries negative consequences on the maternal pelvic floor. Assisted vaginal delivery is associated with slower recovery in comparison to vaginal birth, but also compared to cesarean section. The number of cesarean sections may limit the size of the Greek family, but within modern Greece of the memorandums, this might be of minimal importance at the time of the cesarean section decision.

The evaluation of obstetric practice should use a variety of obstetric and labour parameters that should overcome the traditionally used index of cesarean deliveries[15]. According to Main et al.[15], the obstetric assessment of a maternity unit, should focus on balanced criteria based on the relations: Labourer/neonate, vaginal delivery/cesarean section, spontaneous labour / induction of labour. The ideal maternity unit is the one that provides the optimal combination of obstetric parameters in contrast to the one with the lower C/S rate.

Despite the fact that the C/S rate is still rising, while the percentage of assisted vaginal deliveries is declining, the PMR and the maternal mortality rate show no further improvement[16]. This fact suggests that the changes in obstetric practice are the result of changes in the philosophy of the maternity units and the obstetricians, and not based upon medical indications. This conclusion is crucial for the formal authorities, as it suggests that these changes are under the control of the doctor lead maternity system.

Whether the rising C/S rate is beneficial, remains to be evaluated in the future, although the up to date conclusions are not encouraging. The literature offers contradicting conclusions, regarding the ideal rate of cesarean births[17-20]. While the debate about VBAC continues, if we intend to decrease the cesarean birth rate, the effort should focus on the decrease of cesareans among primigravidaes[20].

The obstetricians and the maternity units should encompass the strategic core of this effort by the establishment of guidelines under the formal authorities, that will lead safely and responsively the obstetrician, ensuring at the same time the optimal level of obstetric services without focusing unilaterally on just the percentage of cesarean births.

Conflict of interest

The author declares no conflict of interest.

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